

§ 1054.705

may not include engines or equipment certified for California if California has more stringent emission standards for these products or if your products generate or use emission credits under the California program.

(4) Engines or equipment not subject to the requirements of this part, such as those excluded under § 1054.5.

(5) Any other engines or equipment where we indicate elsewhere in this part 1054 that they are not to be included in the calculations of this subpart.

§ 1054.705 How do I generate and calculate exhaust emission credits?

The provisions of this section apply for calculating exhaust emission credits. You may generate exhaust emission credits only if you are a certifying engine manufacturer.

(a) For each participating family, calculate positive or negative emission credits relative to the otherwise applicable emission standard. Calculate positive emission credits for a family that has an FEL below the standard. Calculate negative emission credits for a family that has an FEL above the standard. Sum your positive and negative credits for the model year before rounding. Round the sum of emission credits to the nearest kilogram (kg) using consistent units throughout the following equation:

$$\text{Emission credits (kg)} = (\text{STD} - \text{FEL}) \times (\text{Volume}) \times (\text{Power}) \times (\text{UL}) \times (\text{LF}) \times (10^{-3})$$

Where:

STD = the emission standard, in g/kW-hr.

FEL = the family emission limit for the family, in g/kW-hr.

Volume = the number of engines eligible to participate in the averaging, banking, and trading program within the given family during the model year, as described in § 1054.701(i).

Power = the maximum modal power of the emission-data engine as calculated from the applicable test procedure described in subpart F of this part, in kilowatts.

UL = the useful life for the given family, in hours.

LF = load factor. Use 0.47 for nonhandheld engines and 0.85 for handheld engines. We may specify a different load factor if we approve the use of special test procedures for a family under 40 CFR 1065.10(c)(2), consistent with good engineering judgment.

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(b) [Reserved]

§ 1054.706 How do I generate and calculate evaporative emission credits?

The provisions of this section apply for calculating evaporative emission credits related to fuel tank permeation. You may generate credits only if you are a certifying equipment manufacturer. This may include engine manufacturers that make engines with complete fuel systems as described in § 1054.2.

(a) For each participating family, calculate positive or negative emission credits relative to the otherwise applicable emission standard. Calculate positive emission credits for a family that has an FEL below the standard. Calculate negative emission credits for a family that has an FEL above the standard. Sum your positive and negative credits for the model year before rounding. Round the sum of emission credits to the nearest kilogram (kg) using consistent units throughout the following equation:

$$\text{Emission credits (kg)} = (\text{STD} - \text{FEL}) \times (\text{Total Area}) \times (\text{UL}) \times (\text{AF}) \times (365) \times (10^{-3})$$

Where:

STD = the emission standard, in g/m²/day.

FEL = the family emission limit for the family, in g/m²/day, as described in paragraph (b) of this section.

Total Area = The combined internal surface area of all fuel tanks in the family, taking production volume into account, in m².

UL = 5 years, which represents the useful life for the given family.

AF = adjustment factor. Use 1.0 for testing at 28 °C; use 0.60 for testing at 40 °C.

(b) For calculating credits under paragraph (a) of this section, the emission standard and FEL must both be based on test measurements at the same temperature (28 ° or 40 °C). Determine the FEL for calculating emission credits relative to testing at 28 °C as described in paragraphs (b)(1) and (2) of this section. Determine the FEL for calculating emission credits relative to testing at 40 °C as described in paragraph (b)(3) of this section.

(1) To use an FEL below 5.0 g/m²/day, it must be based on emission measurements.